

repetitively reserves pane-information storage tables and adds information in steps S1802 to S1808 until N reaches the total page count.

[0090] If N has reached the total page count in step S1809, the word processing application program 403 displays the contents of the three-directional view 600 on the basis of all the page data and the pane-information storage tables in step S1811. The word processing application program 403 draws current page selection tabs 604 by the count of the program counter N at the top of the main pane 601. In loading a document, the word processing application program 403 validates one corresponding tab in accordance with the setting of a page to be displayed first (e.g., the first page is displayed immediately after loading). Note that a page corresponding to a valid tab at the top of the main pane 601 will be called a “current page” (or page of interest). The current page can be changed by switching the current page selection tab 604. Upon opening a document data file for the first time, the current page is the start page of the document data file. The word processing application program 403 acquires position information of figures present in the current page from the main pane-information storage table 712, and forms a preview image in the main pane 601. Depending on the preview mode, the word processing application program 403 can display even the contents of objects. In this case, the word processing application program 403 reads the contents of objects by referring to page data, and draws and displays the contents. In a preview mode representing only the presence of objects, the word processing application program 403 identifiably draws and displays areas occupied by the objects on the basis of the positions and sizes of the objects obtained by looking up to the main pane-information storage table.

[0091] The word processing application program 403 creates horizontal projection pane tab areas 605 by the count of the program counter N in the horizontal projection pane 602, and acquires position information of figures from the horizontal projection pane-information storage table 713. The word processing application program 403 draws segments as the projected images of the figures in the horizontal projection pane tab area 605 corresponding to each page. The horizontal projection pane tab area 605 also displays a selection tab for selecting a page. The word processing application program 403 creates vertical projection pane tab areas 606 by the count of the program counter N in the vertical projection pane 603, and acquires position information of figures from the vertical projection pane-information storage table 714. The word processing application program 403 draws segments as the projected images of the figures in the vertical projection pane tab area 606 corresponding to each page. In S1811, the word processing application program 403 draws the preview image of a page selected from document data. Further, the word processing application program 403 draws the projected images of objects contained in each of pages contained in the document data on the basis of the respective pane-information storage tables shown in FIGS. 8A to 8C. The word processing application program 403 draws a user interface window including at least one type of horizontally projected images obtained by projecting objects in respective pages in the horizontal direction of the pages, and vertically projected images obtained by projecting the objects in the vertical direction of the pages.

[0092] When performing drawing processing, the word processing application program 403 creates object information including a page in which an object included in document data is contained, the position of the object in the page, the size of the object, and information representing whether the operator selects the object. The word processing application program 403 creates a preview image, horizontally projected image, and vertically projected image, and draws a user interface window on the basis of the object information. The vertical projection pane tab area 606 also displays a selection tab for selecting a page.

[0093] The processing to display the contents of the three-directional view 600 ends through the processes in step S1801 to S1811. For subsequent re-drawing processing upon update, the memory area holds the page count of the document data represented by the program counter N.

[0094] <Object & Page Selection Processing>

[0095] According to the procedures in FIG. 18, the operator can perform various editing operations while referring to the three-directional view 600 displayed as shown in FIG. 6. The word processing application program 403 executes editing processing corresponding to the operations. FIGS. 19A and 19B show the procedures of object selection processing and page selection processing accompanying the editing operation.

[0096] FIG. 19A is a flowchart showing the procedures of the object selection processing. In order to select a desired object from the three-directional view 600, the operator operates, e.g., the pointing device. For example, the operator moves a cursor displayed by the OS to a predetermined area containing a desired object, and then clicks the button. After the operator performs these selection operations, the processing in FIG. 19A starts.

[0097] The word processing application program 403 draws an object image having a selection handle in correspondence with the selected object, and displays the object image again as the selected object in the three-directional view 600 (S1901). For an object selected from any of the main pane, horizontal projection pane, and vertical projection pane, the word processing application program 403 draws again and displays an object corresponding to the selected object in all the panes. For example, in FIG. 6, the figure 612, horizontally projected figure 613, and vertically projected figure 614 correspond to each other, and the user can select one (e.g., the horizontally projected figure 613) of them. Upon selection, the word processing application program 403 displays the object image having the selection handle for the selected figure and even for the remaining figures (figure 612 and vertically projected figure 614) corresponding to the selected figure. In the first embodiment, the selection handle is a circle at each end of a segment.

[0098] The word processing application program 403 rewrites a selection flag corresponding to the selected object to “ON” in the main pane-information storage table, horizontal projection pane-information storage table, and vertical projection pane-information storage table (S1902). The word processing application program 403 looks up the main pane-information storage table 712, and determines whether there are a plurality of objects whose selection flags are set (flags having the value “ON” will be called set flags) (i.e., whether a plurality of objects are selected) (S1903). If the